



Excavation of Contaminated Soil with UST
Removal and Groundwater Collection
Report of Findings

Dated:
June 20, 2005

Site:
**Humboldt Area Foundation
373 Indianola Road
Bayside, California 95524**

LOP # 12787

Prepared for:
Humboldt Area Foundation

TABLE OF CONTENTS

1.0	EXECUTIVE SUMMARY	4
2.0	INTRODUCTION.....	5
2.1	SITE LOCATION AND DESCRIPTION	6
2.2	SITE TOPOGRAPHY AND HYDROGEOLOGIC SETTING	6
3.0	PREVIOUS INVESTIGATIONS	7
3.1	2002 UST REMOVAL (BEACOM).....	7
3.2	2003 SUBSURFACE INVESTIGATION (SOUNPACIFIC)	8
4.0	RECENT ACTIVITIES	8
4.1	SOIL EXCAVATION AND REMOVAL OF CONTAMINATED SOIL	8
4.1.1	<i>Excavation of Soil</i>	<i>8</i>
4.1.2	<i>Soil Sampling</i>	<i>9</i>
4.1.3	<i>Soil Analytical Results</i>	<i>10</i>
4.1.4	<i>Excavation Backfill</i>	<i>10</i>
4.1.5	<i>Disposal of Contaminated Soil</i>	<i>10</i>
4.2	REMOVAL OF UST	11
4.3	GROUNDWATER INVESTIGATION.....	11
4.3.1	<i>Installation of Temporary Wells</i>	<i>11</i>
4.3.2	<i>Groundwater Sampling and Analysis</i>	<i>12</i>
4.3.3	<i>Groundwater Analytical Results</i>	<i>12</i>
5.0	SITE CONCEPTUAL MODEL	13
6.0	SUMMARY AND RECOMMENDATIONS.....	13
7.0	CERTIFICATION.....	15

TABLES

TABLE 1:	SOIL ANALYTICAL RESULTS
TABLE 2:	GROUNDWATER ANALYTICAL RESULTS
TABLE 3:	FISH BIOASSAY RESULTS

FIGURES

FIGURE 1:	AERIAL/ TOPO MAP
FIGURE 2:	SITE PLAN
FIGURE 3:	PREVIOUS SAMPLE LOCATIONS
FIGURE 4:	SOIL EXCAVATION SAMPLING LOCATIONS
FIGURE 5:	GROUNDWATER INVESTIGATIONS

APPENDICES

APPENDIX A:	SOIL LABORATORY ANALYTICAL
APPENDIX B:	FISH BIOASSAY LABORATORY ANALYTICAL
APPENDIX C:	CERTIFIED SCALE WEIGHT TAGS FOR DISPOSAL OF SOIL
APPENDIX D:	TEMPORARY WELLS BORING LOGS
APPENDIX E:	GROUNDWATER LABORATORY ANALYTICAL

1.0 EXECUTIVE SUMMARY

In November 2004, SounPacific Environmental Services (SounPacific) implemented a remedial excavation at the Humboldt Area Foundation (HAF) site located at 373 Indianola Road, Bayside, California. The excavation was conducted to remove petroleum-impacted soil that had been identified following the removal of a heating oil UST in 2002. During the removal of the contaminated soil, another, previously unknown, UST was discovered and removed. In addition, in April 2005 groundwater samples were collected and analyzed from temporary wells that were installed at the HAF site. All work was conducted at the request of HAF, the current property owner, to meet the requirements of Humboldt County Department of Health and Human Services: Division of Environmental Health (HCDEH). Based on site activities and laboratory analytical results, SounPacific concludes the following:

- SounPacific implemented the excavation activities as outlined in the approved *Subsurface Investigation and Remedial Action Workplan*, dated October 17, 2002, and the correspondence from HCDEH dated October 23, 2002. On November 9 and 10, 2004, SounPacific excavated soil contamination that had been identified during the removal of an UST in February 2002 and a subsequent investigation in October 2003.
- During the excavation activities an additional diesel UST was discovered and removed. The suspected contaminated soil, surrounding the newly discovered UST, was excavated and stockpiled along with soil from the primary excavation.
- The excavation removed contaminated soil, however, due to the areas topography and the need to preserve the structural integrity of the HAF's office building, it was not possible to remove all the contaminated soil, with Total Petroleum Hydrocarbons as diesel (TPHd) as high as 17,900 parts per million (ppm) being left in the ground. Groundwater was not encountered during the excavation activities.

- Groundwater samples were collected from temporary monitoring wells (MW-1 and MW-3), which were installed on April 6, 2005. Analytical results indicated that TPHd and TPHmo were detected at the highest concentrations in well MW-3 at concentrations of 165 ppm and 222 ppm respectively. Lead was detected in well MW-3 at a concentration of 123 ppb.
- Based on the findings, SounPacific on behalf of the HAF are requesting that no further action be required and site closure be granted. This request is based on the following: (1) Soil contamination was restricted to the area directly adjacent to the USTs. Some elevated petroleum hydrocarbon levels remain in the soils, however, the removal of the second UST with the residue fuel and the majority of the impacted soils, indicates that there is now no source for any further contamination; (2) the contaminated soil that remains in-place is predominantly beneath or adjacent to the HAF building and further removal of the contaminated soil is not practical; (3) the limited amount of groundwater observed during the activities at the site, indicate that the migration and potential impact of groundwater is limited; (4) the groundwater contamination at the site, is at low enough levels to utilize natural attenuation as a final passive remedial action for the clean up of this site; and (5) a sensitive receptor survey indicates that the nearest receptor is greater than 200 feet downgradient from the source of contamination.

2.0 INTRODUCTION

This *Report of Findings* was prepared by SounPacific staff on behalf of HAF to report the results of activities conducted at the site between November 2004 and April 2005. The *Report of Findings* present and discuss the excavation of petroleum impacted soil in November 2004, the removal of an UST that was discovered during the excavation, and the installation and sampling of temporary wells, along with the interpretation of the soil and groundwater analytical results. Finally, this report also provides recommendations for future activity.

The SounPacific *Subsurface Investigation and Remedial Action Workplan*, dated October 17, 2002, proposed the excavation of contaminated soil, along with a subsurface investigation to delineate the extend of the contaminated soil. In correspondence from HCDEH dated October

23, 2002, the general scope of work for the subsurface investigation was conditionally approved. However, although the scope of work for the excavation was approved, the HCDEH required that implementation be delayed until the extent of the contamination was determined. On May 20, 2003, an addendum to the Work Plan was submitted, which was approved July 21, 2003. The subsurface investigation was conducted in October 2003, with the results being presented in a *Report of Findings* submitted in April 2004. On August 1, 2004, SounPacific submitted a work plan to conduct groundwater sampling at the HAF site. The groundwater sampling was approved by the HCDEH, who in the same correspondence, requested that the excavation of contaminated soil outlined in the October 2002 work plan be implemented.

All aspects of the work have been conducted in accordance with Section 2724 of the California Underground Storage Tank Regulations. Any modifications made by SounPacific in the field were initiated only after written approval from HCDEH.

2.1 Site Location and Description

The HAF is located at 373 Indianola Road in Bayside, California, as shown in Figure 1. The site is located on a landscaped and partially forested hillside overlooking Humboldt Bay. The area of concern is located near the southeast corner of what is now the office building for the Humboldt Area Foundation (Figure 2). The site of investigation is down-slope from the building itself.

2.2 Site Topography and Hydrogeologic Setting

The site is located on the southwest facing slope of a small knoll (Fig. 1). Published geologic maps of the area indicate this site is underlain by Quaternary Hookton Formation. Pleistocene in age, the Hookton Formation consists primarily of non-marine sandstones with some clays, silts and gravels.

3.0 PREVIOUS INVESTIGATIONS

3.1 2002 UST Removal (Beacom)

In February 2002, during construction activities, a 250-gallon UST of unknown age was discovered adjacent to HAF office building. A permit to remove the UST was attained by Beacom Construction, and the removal took place on February 13, 2002. The UST contained approximately 50 gallons of heating oil, which was removed by Chico Drain Oil prior to the excavation of the UST. The UST appeared to be in good shape with its fiberglass wrap still intact. Diesel odors were detected once the UST was lifted out of the excavation. An unauthorized release form was submitted on March 4, 2002, to HCDEH after excavation activities were completed.

Following removal of the UST, two (2) soil samples (Soil West and Soil East) (Figure 3) were collected from the west and east walls of the excavation and analyzed for Total Petroleum Hydrocarbons as diesel (TPHd) and TPH as motor oil (TPHmo) by **EPA Method 3550**. A third soil sample (Soil Center), was collected from the bottom of the excavation and analyzed for total lead by **EPA Method 200.9**. Laboratory analytical of the soil samples from the excavation walls reported the presence of TPHd (3,100 ppm and 6,100 ppm) and TPHmo (490 ppm and 860 ppm). The laboratory narrative suggests, however, that the constituent detected as TPHmo was likely the heavier end of the material in the diesel range, rather than weathered motor oil. The analysis for total lead reported 5.6 ppm, which is assumed to be the background level. The laboratory analyses are summarized in Table 1. Following the UST removal and sampling by the HCDEH, the soil was returned to the excavation.

One groundwater sample (Pit Water) (Figure 3) was collected from standing water in the UST pit and was analyzed for TPHd and TPHmo by **EPA Method 3510**. Laboratory analytical results indicated the presence of TPHd (38,000,000 ppb) and TPHmo (4,100,000 ppb) contamination in the groundwater. Again the laboratory narrative suggests that the constituent detected as TPHmo was likely the heavier end of the material in the diesel range, rather than weathered motor oil. The analytical results for the groundwater samples are summarized in Table 2.

3.2 2003 Subsurface Investigation (SounPacific)

On October 3, 2003, SounPacific staff performed a subsurface investigation at the Humboldt Area Foundation. The subsurface investigation consisted of advancing four (4) hand-augered soil borings (B-1 through B-4) down to ten (10) feet bgs (Fig. 3). Due to vegetation growth near the removed UST the exact location of the tank excavation pit was roughly determined. No clear evidence, visual or odor, of soil contamination was observed within the soil borings at the time of the investigation. Groundwater was not encountered in the course of this investigation.

The soils were typical of the Hookton Formation deposits where small changes in depositional environments can produce the variability of soils encountered. Soils were primarily sands with varying amounts of clay and silt. Evidence for groundwater was present within the soil profile in the form of mottles, which fluctuated in size and concentration with the fluctuation of fines within the soil profile.

On October 3, 2003, SounPacific staff collected nine (9) soil samples from four (4) borings (B-1 through B-4) (Figure 3). Soil samples were analyzed for TPHd, TPHmo, and BTXE. Results from laboratory analysis indicated that most of the soil contamination concentrations in the bore holes were relatively low to non-detect with only borings B-3 and B-4 detecting any contamination. Boring B-4 had the highest contamination concentration with TPHd being detected at 3,200 ppm (Table 1). Boring B-4 was located closest to the excavation pit.

4.0 RECENT ACTIVITIES

4.1 Soil Excavation and Removal of Contaminated Soil

4.1.1 Excavation of Soil

Based on the levels of soil contamination identified during the removal of the UST and from the subsequent sampling and analysis from the October 2003 soil borings, it was determined to excavate the contaminated soil that had been identified. The excavation of contaminated soils

was conducted in accordance with the SounPacific *Subsurface Investigation and Remedial Action Workplan*, dated October 17, 2002, and approved in the HCDEH correspondence dated October 23, 2002. SounPacific subcontracted Beacom Construction for the excavation and removal of the contaminated soil. Excavation of the contaminated soil commenced on November 9, 2003. As the excavation progressed to the west and the HAF office building, a previously unknown additional UST was uncovered. At the time when the tank was discovered, approximately 15 cubic yards of soil had been removed to an average depth of six feet bgs. The UST was removed, and details associated with the removal of the UST are presented in section 4.2. Following the removal of the UST, excavation of the contaminated soil continued to the edge of the building. The proposed excavation did not completely remove all the suspected soil contamination due to the structural integrity of the adjacent office building. During the excavation, a drain pipe was damaged and repaired to avoid any possibility of creating a preferential pathway for the suspected groundwater contamination. When excavation activities ceased, approximately 20 cubic yards of contaminated soil had been removed.

4.1.2 Soil Sampling

At the conclusion of excavation activities, soil samples were collected from the floor and sidewalls of the excavation. A total of five soil samples were collected for laboratory analysis. This included three sidewall samples from the excavation sidewalls (TPHAF-WW@5.5', TPHAF-NW@9', TPHAF-SW@5.5'), and two samples from the excavation floor (TPHAF@6' A and TPHAF@6' B). The sampling locations are shown in Figure 4. In addition, one composite sample of the excavated soil was collected and analyzed for bioassay to determine the proper soil disposal facility for the contaminated soil.

Soil samples from the floor and sidewalls of the excavation were collected in brass sleeves following EPA guidelines. The ends were sealed with plastic end caps, correctly labeled and shipped in a cooler, kept just below 4 degrees centigrade, and then delivered to Basic Laboratory, Inc., (DHS Cert # 1677). Bioassay samples were collected in 4oz glass jars with Teflon lids. These jars were filled to the top in an attempt to minimize headspace. These samples were immediately placed in a cooler, kept just below 4 degrees centigrade, and then delivered to North Coast Labs in Arcata, California.

All excavation floor and sidewall soil samples were collected and analyzed for TPHd using **EPA Method 8015**, and for total lead using **EPA Method 6010A**.

4.1.3 Soil Analytical Results

On November 9, 2004, SounPacific staff collected five soil samples (TP-HAF-WW@5.5', TPHAF-NW@9', TPHAF-SW@5.5', TPHAF@6' A, and TPHAF@6' B from the excavation pit floor and sidewalls. The soil samples were analyzed for TPHd and lead. TPHd was detected in four of the five samples at concentrations that ranged from 284 ppm detected in sample TP-HAF-WW@5.5' to 17,900 ppm detected in sample TPHAF@6'. No TPHd was reported in sample HAF-NW@5.5'. Lead was detected in all five samples at background levels with concentrations that ranged from 4.6 ppm in sample TPHAF@6' to 5.8 ppm in sample TP-HAF-WW@5.5'. The soil analytical results are summarized in Table 1, with the laboratory report included as Appendix A.

Results from Fish Bioassay indicated a 90% survival rate on the first run, and a 95% survival rate on the second run. The bioassay results are summarized in Table 3, with the laboratory report included as Appendix B.

4.1.4 Excavation Backfill

Following completion of the excavation and sampling activities, Beacom backfilled the excavation with imported fill, after which SounPacific preformed the necessary routine repair and maintenance of the sites landscaping to return it to its original condition.

4.1.5 Disposal of Contaminated Soil

Following excavation, the excavated contaminated soil was relocated from the site of the excavation, and stockpiled near the entrance of HAF, where it was covered with visqueen according to industry standards. As soil analytical results from the recent excavation samples indicated concentrations of TPHd above 10,000 ppm, a fish bioassay was requested in order to

determine the proper soil disposal facility for the contaminated soil. Based upon the results of the fish bioassay, the soil was accepted for disposal at the Bio Industries facility in Red Bluff, California. On May 13, 2005, the soil was loaded and transported to the Bio Industries facility. Certified scale weigh tags indicate that a total of 23.38 tons were disposed at the facility. Certified scale weight tags are included as Attachment C.

4.2 Removal of UST

As stated in section 4.1, during the excavation of the contaminated soil that had been identified during the removal of original UST in 2002, a previously unknown UST was discovered. On discovery of the UST, HCDEH was informed and the UST was removed and disposed of in accordance with local requirements. Visual inspection of the UST, conducted by SounPacific and HCDEH personnel, following its removal, determined that the tank was in poor condition with numerous holes. Further inspection of the UST, identified that some diesel fuel was still present in the tank, occupying the space below the holes inside the UST. Although, visual inspection of the soil around the UST indicated the presence of petroleum hydrocarbons no compliance sampling was conducted or associated with the UST removal, and the ongoing soil excavation was continued with soil sampling being conducted as associated with the ongoing removal of the previously identified soil contamination.

4.3 Groundwater Investigation

4.3.1 Installation of Temporary Wells

Based upon the scope of work presented in the August 1, 2004 work plan, on April 6, 2005, SounPacific staff installed three temporary wells (MW-1 through MW-3) to collect groundwater samples and assess the impact of the downgradient groundwater contamination. The locations of the temporary wells are shown in Figure 5. The temporary well, MW-1, MW-2, and MW-3 were installed in a hand augered boring to depths of 10 feet, 10 feet, and 13 feet bgs, respectively. Each well was constructed with one-inch PVC slotted and solid piping. No sand pack or sanitary seal was installed. The groundwater recharge rate was slow due to the finer size soil types, and

the wells were left overnight to collect enough groundwater for the requested analyses. Borehole logs for the three temporary wells are included as Appendix D

4.3.2 Groundwater Sampling and Analysis

Following installation, and because of the slow groundwater recharge rate due to the finer grained soil types, the wells were left overnight to allow adequate groundwater to accumulate in the wells to collect the samples for the required analyses. Prior to sampling the depth to groundwater in each was measured. No water was present in well MW-2, but in wells MW-1 and MW-3, groundwater was at a depth of 8.2 feet and 9.6 feet, bgs, respectively. Groundwater samples were collected from temporary wells MW-1 and MW-3, however, no groundwater sample was collected from well MW-2 due to the absence of groundwater in the well. However, it was concluded the other wells would provide sufficient data for the purpose of this investigation. Since the upgradient source of the groundwater contamination was associated with the recently removed heating oil UST, groundwater samples were analyzed for TPHg by EPA Method 8015, TPHd and TPHmo by modified EPA Method 8015, BTXE with MTBE by EPA Method 8260, and lead by EPA Method 200.9

4.3.3 Groundwater Analytical Results

On April 7, 2005, SounPacific staff collected two groundwater samples (MW-1 and MW-3) from temporary monitoring wells, MW-1 and MW-3. The groundwater samples were analyzed for TPHg, BTXE, MTBE, TPHD, TPHmo, and lead (Table 2). TPHd was detected in sample MW-3 at a concentration of 165 ppb. No TPHg, BTXE, or MTBE was reported in either sample above the laboratory detection limits. TPHmo was detected at concentrations of 154 ppb in well MW-1 and 222 ppb in well MW-3. Lead was detected at a concentration of 30.2 ppb in well MW-1 and 123 ppb in well MW-3. The groundwater analytical results are summarized in Table 2, with the laboratory report in Appendix E.

5.0 SITE CONCEPTUAL MODEL

Two USTs, for which no records were available, have been removed from the HAF site. Both tanks were located in close proximity of each other, on a relatively steep hill side adjacent to the facilities office building. Soil sampling at the site identified the presences of soil contaminated with long chained hydrocarbons, however, the sampling and analysis of soil samples from borings surrounding the UST locations, indicates that the extent of the contamination is minimal and that minimal migration has occurred. The reason for the minimal migration is likely due to a number of factors, including, the viscous nature of the contaminant, the fine grained nature of the soils, the minimal amount of groundwater present that could transport contaminants (subsurface water only present during wet season, and the likely low through-put of fuel in the tank(s).

Groundwater gradient at the HAF site was not determined, however, based on the topography of the site; it is suspected that groundwater, when present, flows to the southwest. Laboratory analysis of a water sample collected from the original UST removal in February 2002, did report the presence of a high concentrations of long chained hydrocarbons, however, subsequent investigations did not detect significant water, and when present, the analysis of the minimal amount of water present, did not detect significantly elevated levels of petroleum's.

6.0 SUMMARY AND RECOMMENDATIONS

In October 2004, the excavation of petroleum impacted soils was implemented at the HAF facility in accordance with a HCDEH approved workplan. As the excavation progressed, a previously unknown UST was discovered. The UST was in a severe condition of decay, but still contained a small volume of fuel. The UST was removed, in accordance with local protocols, however, no compliance sampling was conducted, due to the ongoing excavation activities and planned sampling. Following removal of the UST, further excavation was conducted, however, although soil contamination was still evident, excavation had to be discontinued due to the slope of the topography and to preserve the structural integrity of the adjacent office building. When excavation activities could not be continued soil samples were collected from the excavation floor and sidewalls, and submitted for laboratory analysis. Analysis of these samples, confirm that some contaminated soil was left in place due to structural integrity issues that did not allow for the removal of this soil. The contaminated soil was stockpiled on site until May 2005, when

it was transported and disposed at Bio Industries, Inc., in Red Bluff, California. A total of 23.38 tons was disposed at Bio Industries, Inc.

To assess the level and extent of any groundwater contamination, in April 2005, SounPacific installed three temporary wells in the suspected downgradient direction from the area of the USTs. Groundwater recovery rates in the wells were very slow, allowing groundwater samples to be collected from only two of the temporary wells. The laboratory analysis of the two samples detected low levels of the long chained petroleum hydrocarbons, although no aromatic hydrocarbons, i.e. benzene, were reported.

Based on the results of the investigations and activities conducted at the HAF, SounPacific on behalf of the HAF are requesting that no further action be required and site closure be granted. This is being requested for the following reasons.

- Previous subsurface investigations had determined that the soil contamination was restricted to the area directly adjacent to the USTs. Although, some elevated petroleum hydrocarbon levels still remain in the soils, the removal of the second UST and the fuel that was present in it, along with the removal of the majority of the impacted soils, indicates that there is now no source for any further contamination.
- The contaminated soil that remains in-place is predominantly beneath or adjacent to the HAF building. Further removal of the contaminated soil is not practical due to the topography or without significantly impacting the structural integrity of the adjacent office building.
- The slow recovery of the wells and the limited amount of groundwater observed during the activities at the site, indicate that the migration and potential impact of groundwater is limited. These facts in cooperation with the analytical results of the groundwater samples for diesel and motor oil indicated that further investigation is not necessary to adequately close this site.
- Although groundwater contamination was present at the site, the results indicated low enough levels to utilize natural attenuation as a final passive remedial action for the clean up of this site.
- A recent sensitive receptor survey, indicate that the nearest receptor is greater than 200 feet downgradient from the source of contamination.

7.0 CERTIFICATION

This report was prepared under the direct supervision of a California registered geologist at SounPacific. All information provided in this report including statements, conclusions and recommendations are based solely on field observations and analyses performed by a State-certified laboratory. SounPacific is not responsible for laboratory errors or errors presented in data retrieved from previous consultants or other documents that are on file in Public Records, HCDEH files, NCRWQCB files.

SounPacific promises to perform all its work in a manner used by members in similar professions working in the same geographic area. SounPacific will do whatever is reasonable to ensure that data collection is accurate. Please note however, that rain, buried utilities, and other factors can influence groundwater depths, directions and other factors beyond what SounPacific could reasonably determine.

SounPacific

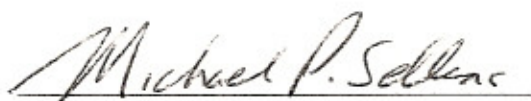
Prepared by:



Greg Sounhein
Project Manager
CA Registered Environmental Assessor #07994



Reviewed by:



Michael Sellens
CA Registered Geologist # 4714
CA Registered Environmental Assessor #07890



Tables

Table 1
Soil Analytical Results
Humboldt Area Foundation
373 Indianola Road
Bayside, California 95524

Sample ID	Sample Date	Benzene (ppm)	Toluene (ppm)	Xylenes (ppm)	Ethylbenzene (ppm)	TPHd (ppm)	TPHmo (ppm)	Lead (ppm)
Soil West	2/13/2002	----	----	----	----	3,100	490	----
Soil East		----	----	----	----	6,100	860	----
Soil Center		----	----	----	----	----	----	5.6
SB-1 @ 5'	10/3/2003	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 1.0	ND < 10	----
SB-1 @ 10'		ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 1.0	ND < 10	----
SB-2 @ 5'		ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 1.0	ND < 10	----
SB-2 @ 10'		ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 1.0	ND < 10	----
SB-3 @ 5'		ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	16	ND < 10	----
SB-3 @ 10'		ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 1.0	ND < 10	----
SB-4 @ 5'		ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	3,200	ND < 10	----
SB-4 @ 6.5'		ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	13	ND < 10	----
SB-4 @ 10'		ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	3.4	ND < 10	----
TP-HAF-WW @ 5.5'	11/9/2004	----	----	----	----	284	----	5.8
TP-HAF-NW @ 9'		----	----	----	----	ND < 10	----	5.0
TP-HAF-SW @ 5.5'		----	----	----	----	4,280	----	4.8
TP-HAF @ 6' A		----	----	----	----	17,900	----	6.4
TP-HAF @ 6' B		----	----	----	----	13,000	----	4.6

TPHd: Total petroleum hydrocarbons as diesel
TPHmo: Total petroleum hydrocarbons as motor oil
ND = Not detected at or above method detection limits
ppm: parts per million = $\mu\text{g/g}$ = mg/kg = $1000\mu\text{g/kg}$.

Table 2
Groundwater Analytical Results

Humboldt Area Foundation
373 Indianola Road
Bayside, California 95524

Sample ID	Sample Date	TPHg (ppb)	Benzene (ppb)	Toluene (ppb)	Xylenes (ppb)	Ethylbenzene (ppb)	MTBE (ppb)	TPHd (ppb)	TPHmo (ppb)	Lead (ppb)
Pit Water	2/13/2002	---	---	---	---	---	---	38,000,000	4,100,000	---
MW-1	4/7/2005	ND < 60	ND < 0.5	ND < 0.5	ND < 1.0	ND < 0.5	ND < 1.0	ND < 100	154	30.2
MW-3	4/7/2005	ND < 60	ND < 0.5	ND < 0.5	ND < 1.0	ND < 0.5	ND < 1.0	165	222	123

Notes:

TPHg: Total petroleum hydrocarbons as gasoline

MTBE: Methyl tertiary butyl ether

TPHd: Total petroleum hydrocarbons as diesel

TPHmo: Total petroleum hydrocarbons as motor oil

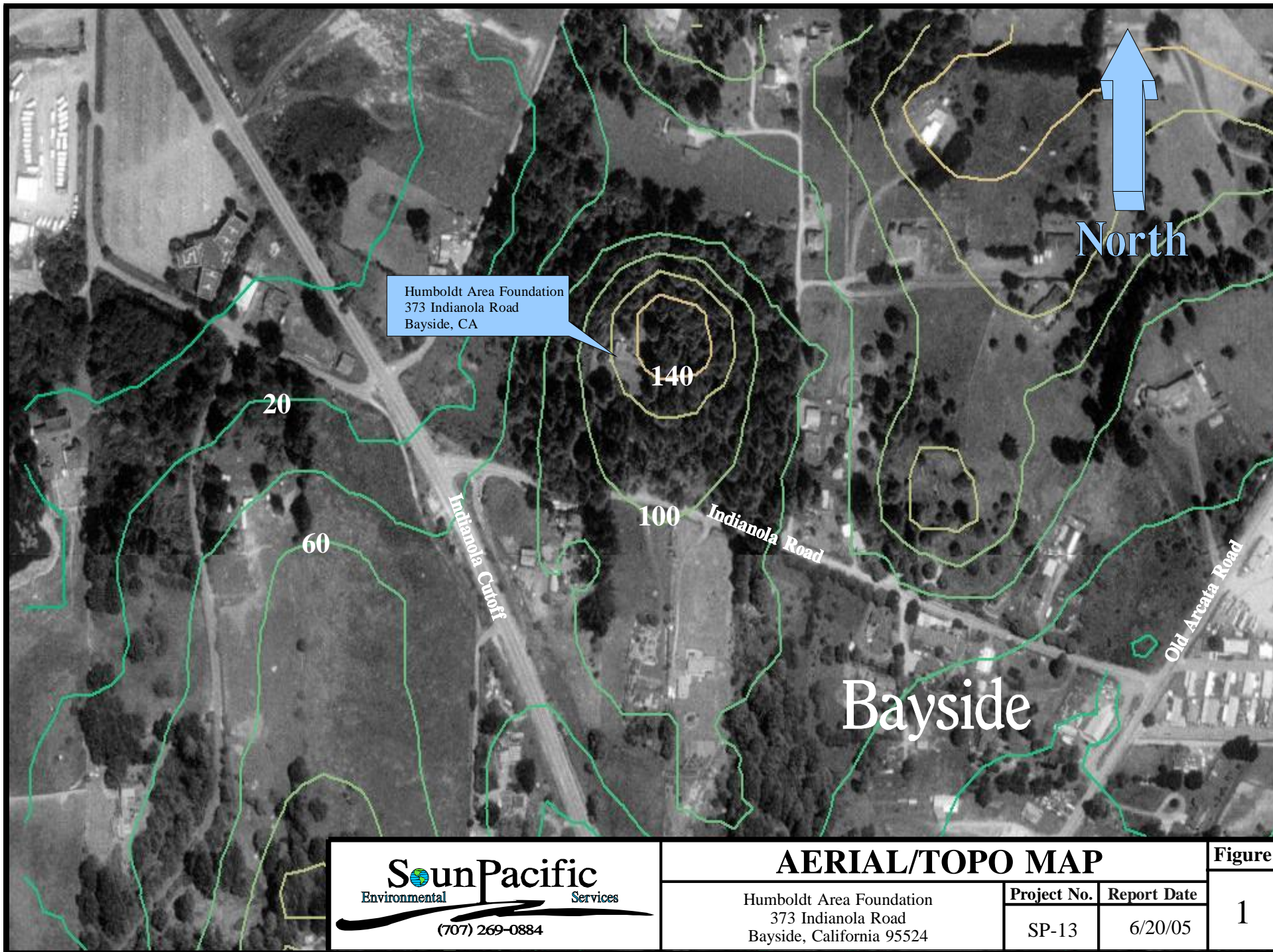
ppb: parts per billion = $\mu\text{g/l}$ = 0.001 mg/l = 0.001 ppm.

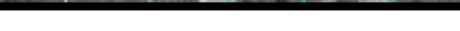
Table 3
Fish Bioassay Results
Humboldt Area Foundation
373 Indianola Road
Bayside, California 95524

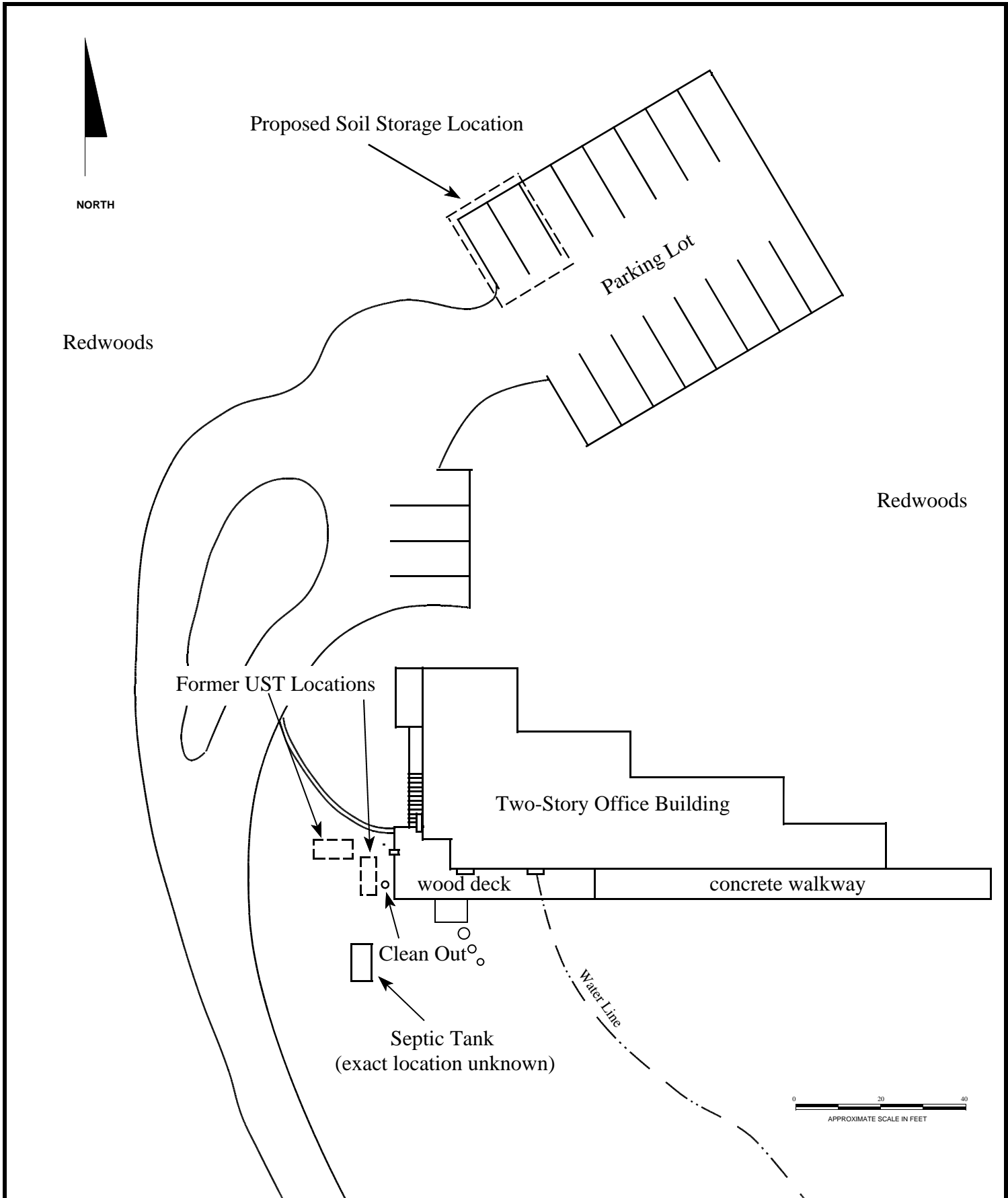
Client Sample I.D.			TPHAF @ 6' A				
Date Sampled			01/27/04				
	CONTROL		250 mg/L		750 mg/L		UNITS
Initial	#1	#2	#1	#2	#1	#2	
pH	7.2	7.3	7.2	7.2	7.1	7.2	pH Units
Dissolved Oxygen	10.5	10.5	14.9	10.5	10.1	10.5	mg/L
24 Hours							
pH	7.0	7.1	7.1	7.1	7.1	7.2	pH Units
Dissolved Oxygen	9.0	8.8	8.8	9.1	9.3	8.9	mg/L
Total Dead	0	0	0	0	0	0	
48 Hours							
pH	7.3	7.4	7.1	7.4	7.3	7.2	pH Units
Dissolved Oxygen	8.2	8.6	7.4	8.5	8.5	8.2	mg/L
Total Dead	1	2	0	1	1	1	
72 Hours							
pH	7.6	7.5	7.3	7.4	7.4	7.3	pH Units
Dissolved Oxygen	9.4	8.7	7.9	8.6	8.7	7.4	mg/L
Total Dead	1	2	0	1	1	1	
96 Hours							
pH	7.5	7.5	7.5	7.5	7.5	7.4	pH Units
Dissolved Oxygen	9.6	9.2	8.5	9.2	8.7	7.8	mg/L
Total Dead	1	2	0	1	1	1	
Survival Rate	90%	80%	100 %	90%	90%	90%	

Client Sample I.D.			TPHAF @ 6' B				
Date Sampled			01/27/04				
	CONTROL		250 mg/L		750 mg/L		UNITS
Initial	#1	#2	#1	#2	#1	#2	
pH	7.2	7.3	7.2	7.1	7.2	7.1	pH Units
Dissolved Oxygen	10.5	10.5	10.6	10.1	10.4	10.1	mg/L
24 Hours							
pH	7.0	7.1	7.1	7.2	7.1	7.1	pH Units
Dissolved Oxygen	9.0	8.8	9.2	9.1	9.0	9.2	mg/L
Total Dead	0	0	0	0	0	0	
48 Hours							
pH	7.3	7.4	7.4	7.4	7.3	7.3	pH Units
Dissolved Oxygen	8.2	8.6	8.8	8.5	7.8	8.9	mg/L
Total Dead	1	2	0	0	0	1	
72 Hours							
pH	7.6	7.5	7.4	7.4	7.3	7.2	pH Units
Dissolved Oxygen	9.4	8.7	8.4	8.6	7.8	8.3	mg/L
Total Dead	1	2	0	0	0	1	
96 Hours							
pH	7.5	7.5	7.4	7.5	7.5	7.5	pH Units
Dissolved Oxygen	9.6	9.2	8.5	8.9	8.6	8.2	mg/L
Total Dead	1	2	1	0	0	1	
Survival Rate	90%	80%	90%	100 %	100 %	90%	

Figures



 Soun Pacific Environmental Services (707) 269-0884	AERIAL/TOPO MAP			Figure
	Humboldt Area Foundation 373 Indianola Road Bayside, California 95524	Project No.	Report Date	1
		SP-13	6/20/05	

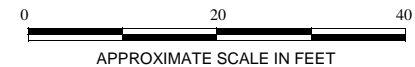


	SITE PLAN			Figure
	Humboldt Area Foundation 373 Indianola Road Bayside, California 95524	Project No.	Report Date	2
		SP-13	6/20/05	

NORTH

Legend

- Soil Sample (2/02)
- Pit Water Sample (2/02)
- Soil Boring (10/03)



Soil West
B-3
B-4
B-2
Soil East
Pit Water
Soil Center
B-1



PREVIOUS SAMPLE LOCATIONS

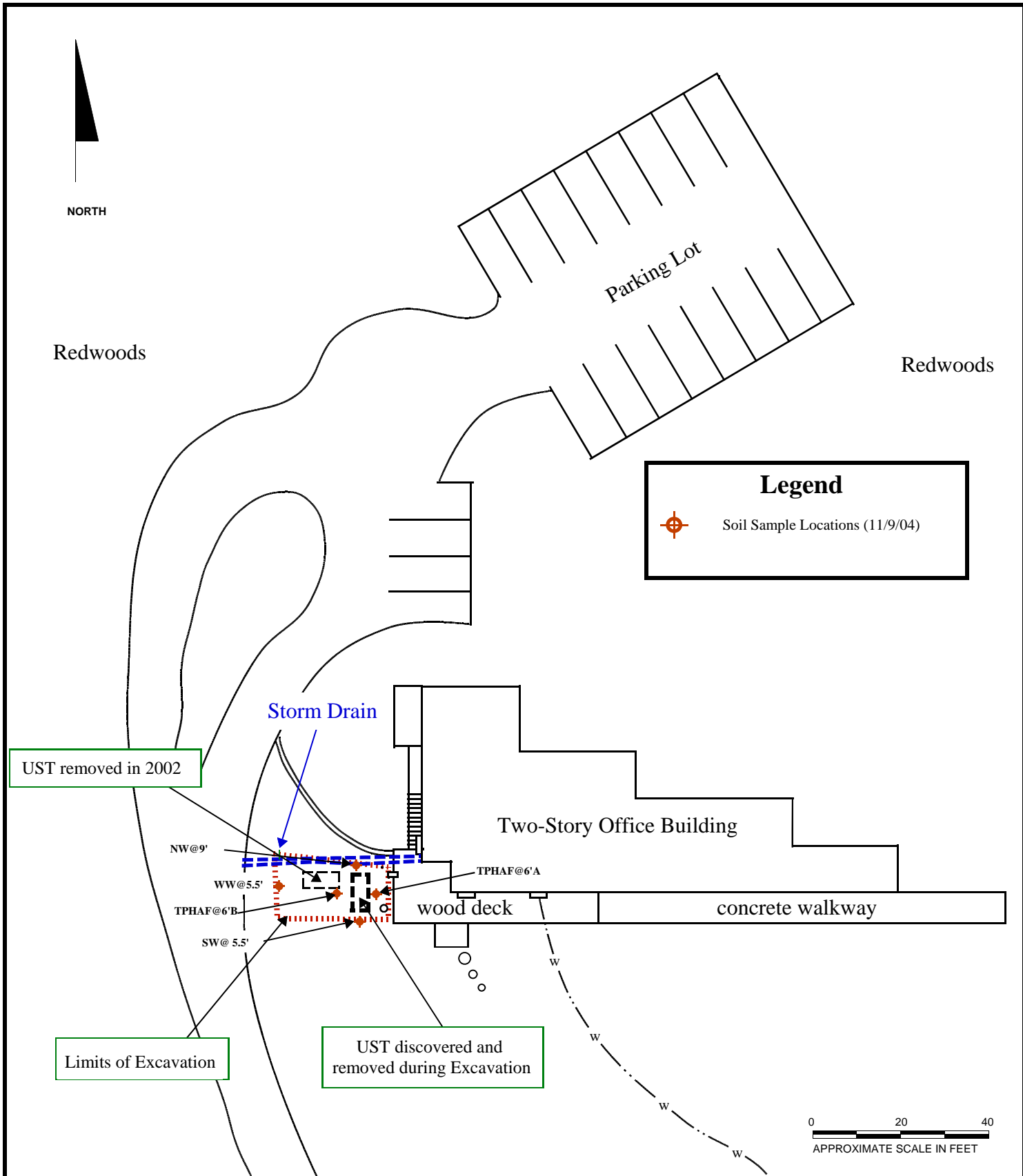
Humboldt Area Foundation
373 Indianola Road
Bayside, California 95524

Project No.
SP-13

Report Date
6/20/05

Figure

3



SOIL EXCAVATION SAMPLING LOCATIONS

Figure

Humboldt Area Foundation
373 Indianola Road
Bayside, California 95524

Project No.

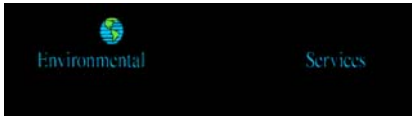
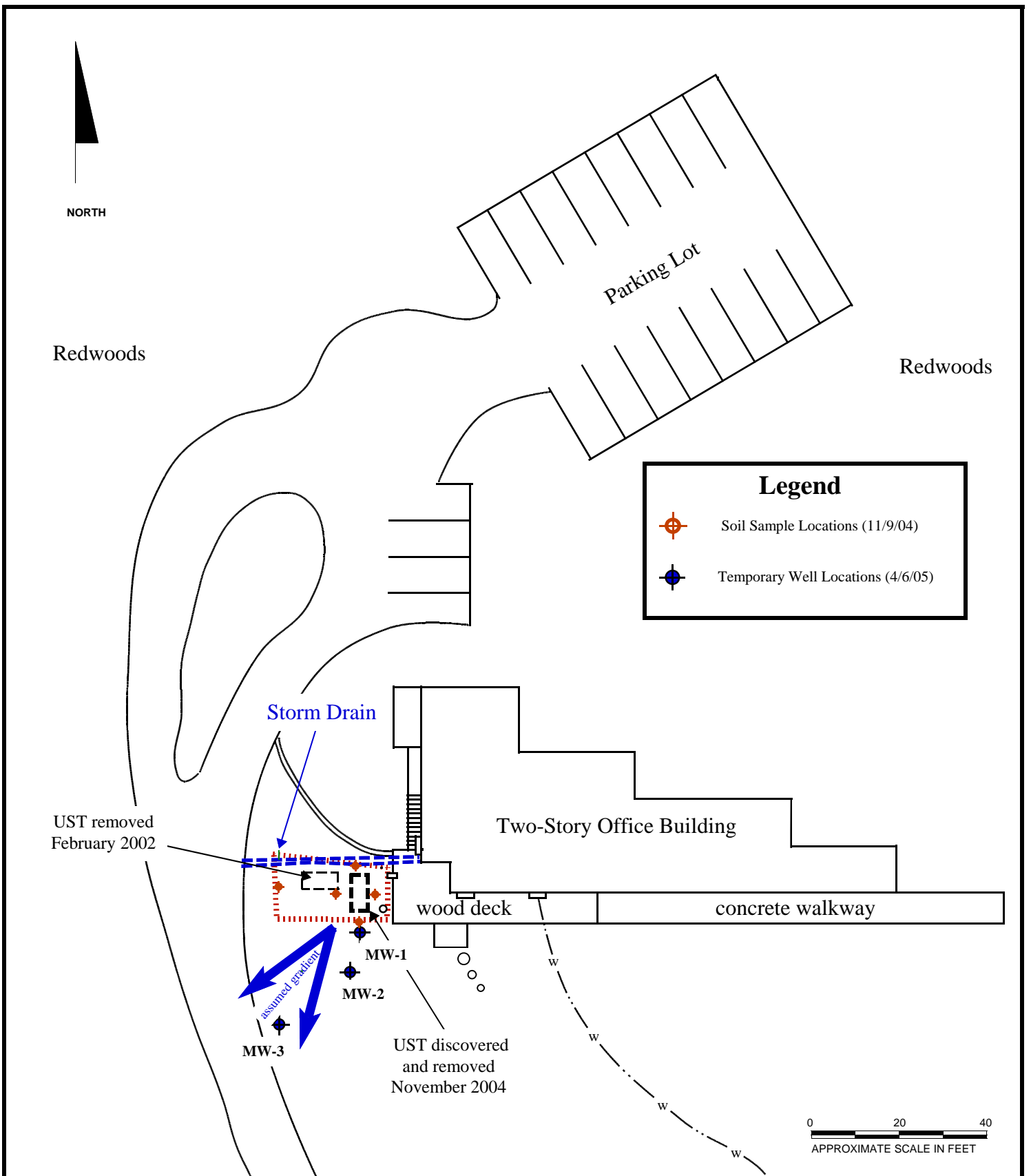
SP-13

Date

6/20/05

4





GROUNDWATER INVESTIGATION

Humboldt Area Foundation
373 Indianola Road
Bayside, California 95524

Project No.

SP-13

Date

6/20/05

Figure

5

Appendices

Appendix A

Report To: SOUNPACIFIC
4612 GREENWOOD HEIGHTS DR
KNEELAND, CA 95549

Attention: Marty Larsen

Project: HUMBOLDT AREA FOUNDATION SP-13

Lab No: 4110637
Reported: 04/21/05
Phone: 707-269-0884
P.O. #

Metals - TTLC

Analyte	Units	Results	Qualifier	MDL	RL	Method	Analyzed	Prepared	Batch
TP-HAF-WW@5.5' Soil (4110637-01) Sampled:11/09/04 00:00 Received:11/16/04 12:19									
Lead	mg/kg	5.8			2.5	EPA 6010A	12/01/04	11/20/04	B4L0035
TPHAF-NW@9' Soil (4110637-02) Sampled:11/09/04 00:00 Received:11/16/04 12:19									
Lead	mg/kg	5.0			2.5	EPA 6010A	12/01/04	11/20/04	B4L0035
TPHAF-SW@5.5' Soil (4110637-03) Sampled:11/09/04 00:00 Received:11/16/04 12:19									
Lead	mg/kg	4.8			2.5	EPA 6010A	12/01/04	11/20/04	B4L0035
TPHAF@6' A Soil (4110637-04) Sampled:11/09/04 00:00 Received:11/16/04 12:19									
Lead	mg/kg	6.4			2.5	EPA 6010A	12/01/04	11/20/04	B4L0035
TPHAF@6' B Soil (4110637-05) Sampled:11/09/04 00:00 Received:11/16/04 12:19									
Lead	mg/kg	4.6			2.5	EPA 6010A	12/01/04	11/20/04	B4L0035

Approved By

Basic Laboratory, Inc.

California D.O.H.S. Cert #1677

Report To: SOUNPACIFIC
4612 GREENWOOD HEIGHTS DR
KNEELAND, CA 95549

Attention: Marty Larsen

Project: HUMBOLDT AREA FOUNDATION SP-13

Lab No: 4110637
Reported: 04/21/05
Phone: 707-269-0884
P.O. #

TPH Diesel & Motor Oil - Solid

Analyte	Units	Results	Qualifier	MDL	RL	Method	Analyzed	Prepared	Batch
TP-HAF-WW@5.5' Soil (4110637-01) Sampled:11/09/04 00:00 Received:11/16/04 12:19									
Diesel	mg/kg	284			20	EPA 8015	11/18/04	11/17/04	B4K0363
Surrogate: Octacosane		67.6 %		50-150		"	"	"	"
TPHAF-NW@9' Soil (4110637-02) Sampled:11/09/04 00:00 Received:11/16/04 12:19									
Diesel	mg/kg	ND			10	EPA 8015	11/18/04	11/17/04	B4K0363
Surrogate: Octacosane		70.0 %		50-150		"	"	"	"
TPHAF-SW@5.5' Soil (4110637-03) Sampled:11/09/04 00:00 Received:11/16/04 12:19									
Diesel	mg/kg	4280			500	EPA 8015	11/18/04	11/17/04	B4K0363
Surrogate: Octacosane		%	S-01	50-150		"	"	"	"
TPHAF@6' A Soil (4110637-04) Sampled:11/09/04 00:00 Received:11/16/04 12:19									
Diesel	mg/kg	17900			2000	EPA 8015	11/18/04	11/17/04	B4K0363
Surrogate: Octacosane		%	S-01	50-150		"	"	"	"
TPHAF@6' B Soil (4110637-05) Sampled:11/09/04 00:00 Received:11/16/04 12:19									
Diesel	mg/kg	13000			2000	EPA 8015	11/18/04	11/17/04	B4K0363
Surrogate: Octacosane		%	S-01	50-150		"	"	"	"

Notes and Definitions

S-01	The surrogate recovery for this sample is not available due to sample dilution required from high analyte concentration and/or matrix interferences.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the detection limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
<	Less than reporting limit
≤	Less than or equal to reporting limit
>	Greater than reporting limit
≥	Greater than or equal to reporting limit
MDL	Method Detection Limit
RL/ML	Minimum Level of Quantitation
MCL/AL	Maximum Contaminant Level/Action Level
mg/kg	Results reported as wet weight
TTL	Total Threshold Limit Concentration
STLC	Soluble Threshold Limit Concentration
TCLP	Toxicity Characteristic Leachate Procedure

Approved By

Basic Laboratory, Inc.

California D.O.H.S. Cert #1677

Appendix B

DATE: February 22, 2005

REPORT TO: Basic Laboratory
2218 Railroad Ave.
Redding, CA 96001

ATTENTION: Ricky Jensen

NCL Work Order: 05-02-181-01A

Received Date: 2/9/05

Sample Description: 5020270-01

Sampled Date: 11/9/04

Page 1 of 2

HAZARDOUS WASTE BIOASSAY SCREENING REPORT

Results: 90 % Survival in 750 mg/L

Species: *Pimephales promelas*, Fathead Minnow

Date Started: 2/15/05

Supporting Data:

INITIAL	CONTROL		250 mg/L		750 mg/L		Units
	#1	#2	#1	#2	#1	#2	
pH	7.2	7.3	7.2	7.2	7.1	7.2	pH Units
Dissolved Oxygen	10.5	10.5	14.9	10.5	10.1	10.5	mg/L
24 Hours							
pH	7.0	7.1	7.1	7.1	7.1	7.2	pH Units
Dissolved Oxygen	9.0	8.8	8.8	9.1	9.3	8.9	mg/L
Total Dead	0	0	0	0	0	0	
48 Hours							
pH	7.3	7.4	7.1	7.4	7.3	7.2	pH Units
Dissolved Oxygen	8.2	8.6	7.4	8.5	8.5	8.2	mg/L
Total Dead	1	2	0	1	1	1	
72 Hours							
pH	7.6	7.5	7.3	7.4	7.4	7.3	pH Units
Dissolved Oxygen	9.4	8.7	7.9	8.6	8.7	7.4	mg/L
Total Dead	1	2	0	1	1	1	
96 Hours							
pH	7.5	7.5	7.5	7.5	7.5	7.4	pH Units
Dissolved Oxygen	9.6	9.2	8.5	9.2	8.7	7.8	mg/L
Total Dead	1	2	0	1	1	1	
Survival Rate	90%	80%	100%	90%	90%	90%	

CONCENTRATION	Hardness		Alkalinity		UNITS
	Initial	Final	Initial	Final	
Control	44	44	40	44	mgCaCO ₃ /L
Control Dup.	40	44	48	48	mgCaCO ₃ /L
Sample (750 mg/L)	40	44	44	56	mgCaCO ₃ /L
Sample Dup.(750 mg/L)	40	44	48	56	mgCaCO ₃ /L

FISH DATA			
Avg. Weight	0.37 g	Avg. Length	2.9 cm
Max. Weight	0.63 g	Max. Length	3.4 cm
Min. Weight	0.26 g	Min. Length	2.6 cm

Acclimation: 61 Days

2 Tanks per Dilution, 10 Fish per tank

Samples were maintained at 20 ± 2 °C

Method: Static Acute Bioassay Procedures for Hazardous Waste

James M. Polisini, Ph.D.; Rebecca G. Miller, B.A.

Janna R. White, B.S. California Dept. of Fish & Game,
November 1992

The fish mortality in the control tanks exceeded the lower acceptance limit. Since the percent survival in the 750 mg/L test tanks was 90% the data were accepted.

Laboratory Supervisor

QA Unit

Jesse G. Chaney, Jr.
Laboratory Director

REPORT TO: Basic Laboratory
2218 Railroad Ave.
Redding, CA 96001

ATTENTION: Ricky Jensen

NCL Work Order: 05-02-181-02A

Received Date: 2/9/05

Sample Description: 5020270-02

Sampled Date: 11/9/04

HAZARDOUS WASTE BIOASSAY SCREENING REPORT

Results: 95 % Survival in 750 mg/L

Species: *Pimephales promelas*, Fathead Minnow

Date Started: 2/15/05

Supporting Data:

INITIAL	CONTROL		250 mg/L		750 mg/L		Units
	#1	#2	#1	#2	#1	#2	
pH	7.2	7.3	7.2	7.1	7.2	7.1	pH Units
Dissolved Oxygen	10.5	10.5	10.6	10.1	10.4	10.1	mg/L
24 Hours							
pH	7.0	7.1	7.1	7.2	7.1	7.1	pH Units
Dissolved Oxygen	9.0	8.8	9.2	9.1	9.0	9.2	mg/L
Total Dead	0	0	0	0	0	0	
48 Hours							
pH	7.3	7.4	7.4	7.4	7.3	7.3	pH Units
Dissolved Oxygen	8.2	8.6	8.8	8.5	7.8	8.9	mg/L
Total Dead	1	2	0	0	0	1	
72 Hours							
pH	7.6	7.5	7.4	7.4	7.3	7.2	pH Units
Dissolved Oxygen	9.4	8.7	8.4	8.6	7.8	8.3	mg/L
Total Dead	1	2	0	0	0	1	
96 Hours							
pH	7.5	7.5	7.4	7.5	7.5	7.5	pH Units
Dissolved Oxygen	9.6	9.2	8.5	8.9	8.6	8.2	mg/L
Total Dead	1	2	1	0	0	1	
Survival Rate	90%	80%	90%	100%	100%	90%	

CONCENTRATION	Hardness		Alkalinity		UNITS
	Initial	Final	Initial	Final	
Control	44	44	40	44	mgCaCO ₃ /L
Control Dup.	40	44	48	48	mgCaCO ₃ /L
Sample (750 mg/L)	44	48	44	44	mgCaCO ₃ /L
Sample Dup.(750 mg/L)	44	48	40	44	mgCaCO ₃ /L

FISH DATA			
Avg. Weight	0.37 g	Avg. Length	2.9 cm
Max. Weight	0.63 g	Max. Length	3.4 cm
Min. Weight	0.26 g	Min. Length	2.6 cm

Acclimation: 61 Days

2 Tanks per Dilution, 10 Fish per tank


Samples were maintained at $20 \pm 2^{\circ}\text{C}$

Method: Static Acute Bioassay Procedures for Hazardous Waste
James M. Polisini, Ph.D; Rebecca G. Miller, B.A.
Janna R. White, B.S. California Dept. of Fish & Game,
November 1992

The fish mortality in the control tanks exceeded the lower acceptance limit. Since the percent survival in the 750 mg/L test tanks was 95% the data were accepted.

Appendix D


Legend for Soil Boring Logs

 ML Silt

 CL Clay

 SM Silty Sand

 SC Clayey Sand

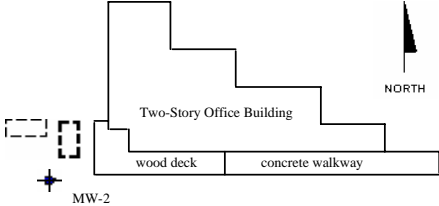


 SM/SC Silty/Clayey Sand


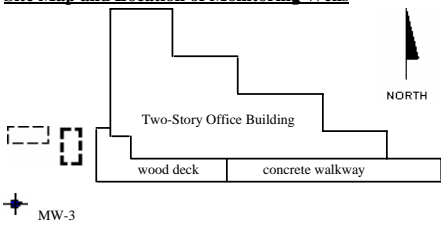


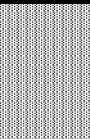
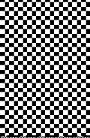
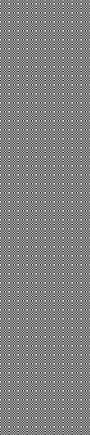

 GC Clayey Gravel

----- Gradational Contact

———— Abrupt or Clear Contact

Boring Log					<div><div>SounPacific</div><div>Environmental Services</div><div>(707) 269-0884</div></div>			<div>Client</div> <div>Humboldt Area Foundation</div>		<div>Boring No.</div> <div>MW-1</div>		
<div>Job Site/ Address: 373 Indianola Road</div> <div>Bayside, California 95524</div>								<div>Job#:</div> <div>SP-13</div>		<div>Sheet</div> <div>1 of 3</div>		
<div>Site Map and Location of Monitoring Wells</div> <div><div><div>MW-1</div><div><div><div></div><div></div><div></div></div><div>Two-Story Office Building</div><div>wood deck</div><div>concrete walkway</div></div><div>NORTH</div></div></div>					<div>DRILLER INFORMATION</div> <div><div>Drilling Co.:</div><div>SounPacific</div></div> <div><div>Rig Operator:</div><div>Marty Larsen</div></div> <div><div>Drilling Method:</div><div>Hand-Auger</div></div> <div><div>Drill Rig Type:</div><div>Quick Release Hand Auger</div></div> <div><div><div></div></div><div>Approximate Initial Water Level</div><div>8.2</div></div> <div><div><div></div></div><div>Approximate Stabilized Water Level</div><div>N/A</div></div>			<div>PROJECT INFORMATION</div> <div><div>Project Manager:</div><div>Andy Malone</div></div> <div><div>Geologist:</div><div>Marty Larsen</div></div> <div><div>Sampler:</div><div></div></div> <div><div>Sampling Method:</div><div></div></div> <div><div>Time Start:</div><div>N/A</div></div> <div><div>Time Stop:</div><div>N/A</div></div> <div><div>Boring Diameter:</div><div>3 inch</div></div> <div><div>Boring Depth:</div><div>10 Feet</div></div>				
					<div>Northing:</div>		<div>Easting:</div>		<div>Elevation:</div>			
<div>Well Construction</div>	<div>Depth to Water (feet bgs)</div>	<div>Water Level</div>	<div>DEPTH (feet)</div>	<div>SOIL SAMPLE LOCATION</div>	<div>Graphic Representation</div> <div><div>GRAVEL</div><div>FINES</div><div>SANDS</div></div>			<div>GROUP SYMBOL</div>		<div>FIELD NOTES</div>		
			1					<div></div> <div>SM</div>		<div>Silty Sand, medium dense,moist, yellowish brown , roots- common & medium, sand is very fine.</div>		
			2									
			3									
				4					<div></div> <div>SM/SC</div>		<div>Silty Sand to Clayey Sand dense, slightly moist, mottles- variable, common, medium, & distinct, brownish yellow to yellowish brown, roots- few & fine to medium.</div>	
			5									
			6									
				7					<div></div> <div>SC</div>		<div>Clayey Sand, medium dense to dense, mottles- common, fine, & faint, slightly moist,dark brown to light yellowish brown, roots- few & fine.Sand increasing with depth, mottles- few & faint, occasional manganese nodules.</div>	
			8									
			9									
			<div><div></div></div> 8.2									
				10								
				11								
				12								
				13								
				14								
				15								
				16								
				17								
				18								
				19								
			20									
<div>Comments:</div>												

Boring Log					<div><div>SounPacific</div><div>Environmental Services</div><div>(707) 269-0884</div></div>			Client Humboldt Area Foundation		Boring No. MW-2		
Job Site/ Address: 373 Indianola Road Bayside, California 95524								Job#: SP-13		Sheet		
								Date: 4/6/2005		2 of 3		
Site Map and Location of Monitoring Wells 					DRILLER INFORMATION				PROJECT INFORMATION			
					Drilling Co.: SounPacific				Project Manager: Andy Malone			
					Rig Operator: Marty Larsen				Geologist: Marty Larsen			
					Drilling Method: Hand-Auger				Sampler:			
					Drill Rig Type: Quick Release Hand Auger				Sampling Method:			
							Approximate Initial Water Level		Time Start: N/A			
							N/A		Time Stop: N/A			
							Approximate Stabilized Water Level		Boring Diameter: 3 inch			
							N/A		Boring Depth: 10 Feet			
					Northing:				Easting:			
									Elevation:			
Well Construction	Depth to Water (feet bgs)	Water Level	DEPTH (feet)	SOIL SAMPLE LOCATION	Graphic Representation			GROUP SYMBOL		FIELD NOTES		
					GRAVEL	FINES	SANDS					
			1						SM	Silty Sand, loose, slightly moist, light brown to dark brown , roots- common & medium, sand is very fine.		
			2									
			3									
			4						SM/SC	Silty Sand to Clayey Sand dense, slightly moist, mottles- variable, common, medium, & distinct, brownish yellow to yellowish brown, roots- few & fine to medium.		
			5									
			6									
			7						SC	Clayey Sand, medium dense to dense, slightly moist, mottles- common,dark brown to light yellowish brown, roots- few & fine.Sand increasing with depth, very fine grained sand.		
			8									
			9									
			10									
			11									
			12							Bottom of Hole at 10'		
			13									
			14									
			15									
			16									
			17									
			18									
			19									
			20									
Comments: No water												

Boring Log								Client Humboldt Area Foundation		Boring No. MW-3		
Job Site/ Address: 373 Indianola Road Bayside, California 95524								Job#: SP-13		Sheet 3 of 3		
								Date: 4/6/2005				
Site Map and Location of Monitoring Wells 					DRILLER INFORMATION				PROJECT INFORMATION			
					Drilling Co.: SounPacific				Project Manager: Andy Malone			
					Rig Operator: Marty Larsen				Geologist: Marty Larsen			
					Drilling Method: Hand-Auger				Sampler:			
					Drill Rig Type: Quick Release Hand Auger				Sampling Method:			
					 Approximate Initial Water Level 9.6				Time Start: N/A			
					 Approximate Stabilized Water Level N/A				Time Stop: N/A			
									Boring Diameter: 3 inch			
									Boring Depth: 13 Feet			
					Northing:				Easting:			
									Elevation:			
Well Construction	Depth to Water (feet bgs)	Water Level	DEPTH (feet)	SOIL SAMPLE LOCATION	Graphic Representation			GROUP SYMBOL	FIELD NOTES			
					GRAVEL	FINES	SANDS					
			1						SM	Silty Sand , medium dense, slightly moist, yellowish brown to dark brown , roots- common & medium, sand is very fine.		
			2									
			3									
			4						SM/SC	Silty Sand to Clayey Sand dense, slightly moist, mottles- variable, common, medium, & distinct, brownish yellow to yellowish brown, roots- few & fine to medium.		
			5									
			6									
			7						SC	Clayey Sand , medium dense to dense, slightly moist, mottles- common, dark brown to dark yellowish brown, roots- few & fine. Sand increasing with depth, 10% clay, @ 12' fine grained sand, reddish brown, loose, 5% clay.		
			8									
			9									
		9.6	10									
			11									
			12									
			13									
			14									
			15									
			16									
			17									
			18									
			19									
			20									
											Bottom of Hole at 13'	
Comments: No water												

Appendix E

April 28, 2005

Lab ID: 5040478

Marty Larsen
SOUNPACIFIC
4612 GREENWOOD HEIGHTS DR
KNEELAND, CA 95549
RE: HUMBOLDT AREA FOUNDATION SP-13

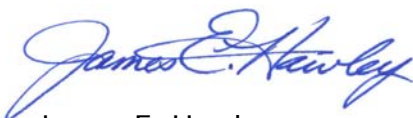
Dear Marty Larsen,

Enclosed are the analysis results for Work Order number 5040478. All analysis were performed under strict adherence to our established Quality Assurance Plan. Any abnormalities are listed in the qualifier section of this report.

If you have any questions regarding these results, please feel free to contact us at any time. We appreciate the opportunity to service your environmental testing needs.

Sincerely,

For



James E. Hawley
Laboratory Director
California ELAP Certification Number 1677

Report To: SOUNPACIFIC
4612 GREENWOOD HEIGHTS DR
KNEELAND, CA 95549

Attention: Marty Larsen

Project: HUMBOLDT AREA FOUNDATION SP-13

Description: MW-1

Matrix: Water

Lab ID: 5040478-01

Lab No: 5040478
Reported: 04/27/05
Phone: 707-269-0884
P.O. #

Sampled: 04/07/05 00:00

Received: 04/13/05 15:40

Metals - Total

Analyte	Units	Results	Qualifier	MDL	RL	Method	Analyzed	Prepared	Batch
Lead	ug/l	30.2			5.0	EPA 200.9	04/21/05	04/21/05	B5D0317

Volatile Organic Compounds

Analyte	Units	Results	Qualifier	MDL	RL	Method	Analyzed	Prepared	Batch
Gasoline	ug/l	ND			60.0	EPA 8015/8260	04/14/05	04/14/05	B5D0360
Benzene	"	ND			0.5	"	"	"	"
Toluene	"	ND			0.5	"	"	"	"
Ethylbenzene	"	ND			0.5	"	"	"	"
Xylenes (total)	"	ND			1.0	"	"	"	"
Methyl tert-butyl ether	"	ND			1.0	"	"	"	"
Surrogate: 4-Bromofluorobenzene		108 %			43-155	"	"	"	"

TPH Diesel & Motor Oil

Analyte	Units	Results	Qualifier	MDL	RL	Method	Analyzed	Prepared	Batch
Diesel	ug/l	ND	I-02		100	EPA 8015 MOD	04/22/05	04/14/05	B5D0336
Motor Oil	"	154	D-02, I-02		100	"	"	"	"
Surrogate: Octacosane		115 %	I-02		50-150	"	"	"	"

Approved By

Basic Laboratory, Inc.

California D.O.H.S. Cert #1677

Report To: SOUNPACIFIC
4612 GREENWOOD HEIGHTS DR
KNEELAND, CA 95549

Attention: Marty Larsen

Project: HUMBOLDT AREA FOUNDATION SP-13

Description: MW-3

Matrix: Water

Lab ID: 5040478-02

Lab No: 5040478
Reported: 04/27/05
Phone: 707-269-0884
P.O. #

Sampled: 04/07/05 00:00

Received: 04/13/05 15:40

Metals - Total

Analyte	Units	Results	Qualifier	MDL	RL	Method	Analyzed	Prepared	Batch
Lead	ug/l	123			5.0	EPA 200.9	04/21/05	04/21/05	B5D0317

Volatile Organic Compounds

Analyte	Units	Results	Qualifier	MDL	RL	Method	Analyzed	Prepared	Batch
Gasoline	ug/l	ND			60.0	EPA 8015/8260	04/14/05	04/14/05	B5D0360
Benzene	"	ND			0.5	"	"	"	"
Toluene	"	ND			0.5	"	"	"	"
Ethylbenzene	"	ND			0.5	"	"	"	"
Xylenes (total)	"	ND			1.0	"	"	"	"
Methyl tert-butyl ether	"	ND			1.0	"	"	"	"
Surrogate: 4-Bromofluorobenzene		106 %			43-155	"	"	"	"

TPH Diesel & Motor Oil

Analyte	Units	Results	Qualifier	MDL	RL	Method	Analyzed	Prepared	Batch
Diesel	ug/l	165	D-02, I-02		50	EPA 8015 MOD	04/22/05	04/14/05	B5D0336
Motor Oil	"	222	D-02, I-02		50	"	"	"	"
Surrogate: Octacosane		116 %	I-02		50-150	"	"	"	"

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4612 GREENWOOD HEIGHTS DR
KNEELAND, CA 95549
Attention: Marty Larsen
Project: HUMBOLDT AREA FOUNDATION SP-13

Lab No: 5040478
Reported: 04/27/05
Phone: 707-269-0884
P.O. #

Notes and Definitions

D-02	Hydrocarbon pattern present in the requested fuel quantitation range but does not resemble the pattern of the requested fuel.
I-02	Sample was analyzed outside of the EPA recommended holding time.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the detection limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
<	Less than reporting limit
≤	Less than or equal to reporting limit
>	Greater than reporting limit
≥	Greater than or equal to reporting limit
MDL	Method Detection Limit
RL/ML	Minimum Level of Quantitation
MCL/AL	Maximum Contaminant Level/Action Level
mg/kg	Results reported as wet weight
TTLC	Total Threshold Limit Concentration
STLC	Soluble Threshold Limit Concentration
TCLP	Toxicity Characteristic Leachate Procedure

Approved By

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